Amendments to the Drawings:

The attached replacement sheet of drawings includes changes to Fig. 5 and replaces the original sheet including Fig. 5.

In Figure 5, the legend "Prior Art" has been added.

Attachments following last page of this Amendment:

Replacement Sheet (1 page)

REMARKS

Claims 1-15 are pending, with claim 1 being independent. Applicant has amended claims 1 and 11. Support for these amendments can be found in the originally-filed specification at least at page 3, lines 21-23 and Figs. 1-4. No new matter has been added.

Drawings:

In response to the Examiner's request for correction, applicant has amended Fig. 5 to add the legend "Prior Art."

Claims 1-7:

Independent claim 1 recites an apparatus for optically pumping a laser-active solid body with pumping light coupled into the solid body through an end surface of the solid body. The apparatus includes a laser-active solid body, a reflector, and a surface. The laser-active solid body includes an end surface though which pumping light is coupled into the solid body and a lateral surface through which pumping light exits the solid body. The reflector surrounds the laser-active solid body at a distance from the lateral surface of the solid body for reflecting light that exists the solid body back towards the solid body, thereby forming an annular gap between the solid body and the reflector. The surface diffuses light that is coupled into the solid body through the end surface of the solid body and that exits the solid body through the lateral surface. The surface is selected from the group consisting of the lateral surface and a surface of the reflector.

Claims 1-7 have been rejected as being anticipated by WO 93/23899 (Tidwell). Applicant requests withdrawal of this rejection because Tidwell fails to describe or suggest a reflector surrounding a laser-active solid body at a distance from a lateral surface of the solid body for reflecting light that exists the solid body back towards the solid body, thereby forming an annular gap between the solid body and the reflector, as recited in claim 1.

Tidwell relates to a laser system 2 having a solid-state lasing medium 4 that has two opposed end surfaces 6 and a circumferential side surface 8. See Tidwell at page 3, lines 23-30

and Fig. 1. A radiation source 10 transmits pump energy to an end surface 6 of the lasing medium 4 and a lens 12 is placed between the radiation source 10 and the end surface 6 to direct the path of the radiation into the lasing medium 4. See Tidwell at page 3, line 31 to page 4, line 19 and Fig. 1. The radiation from the source 10 strikes the side surface 8 at an angle at which it is totally internally reflected. See Tidwell at page 4, lines 20-27. A reflective coating may be applied to the side surface 8 to support reflection of the radiation through the lasing medium 4. See Tidwell at page 4, line 28 to page 5, line 6. Alternatively, or additionally, the side surface 8 may be a rough surface to reflect the radiation that strikes the side surface 8. See Tidwell at page 5, lines 7-14.

However, while Tidwell describes a reflective coating around the side surface 8, Tidwell's reflective coating is not at a distance from the side surface 8 in such a manner as to form an annular gap between the lasing medium 4 and the reflective coating. Rather, as Tidwell explains, the reflective coating is "applied to the side surface 8 of the lasing medium 4." See Tidwell at page 4, lines 28-30. Moreover, one of ordinary skill in the art would not have been motivated to modify Tidwell to form such an annular gap between the reflective coating and the side surface 8. For at least these reasons, claim 1 is allowable over Tidwell. Claims 2-7 depend from claim 1, and are allowable for at least the reasons that claim 1 is allowable.

Claims 8-10:

Claims 8-10 have been rejected as being obvious over Tidwell in view of U.S. Publication No. 2002/00118718 (Honea). Applicant requests withdrawal of the rejection of claims 8-10 for the following reasons. Claims 8-10 depend from claim 1, which was rejected as being anticipated by Tidwell. Honea fails to remedy the failure of Tidwell to describe or suggest a reflector surrounding a laser-active solid body at a distance from a lateral surface of the solid body for reflecting light that exists the solid body back towards the solid body, thereby forming an annular gap between the solid body and the reflector, as recited in claim 1.

Honea relates to a laser 20 having a laser slab 22, a lens duct 23 that delivers pump light from a diode array 24 to the laser slab 22, and an intermediate beam extractor 26 between the

lens duct 23 and the laser slab 22. See Honea at paragraph 0020 and Fig. 1. The pump light is delivered to an end 21 of the laser slab 22 through a highly reflecting dichroic coating. See Honea at paragraph 00202 and Fig. 1. The laser slab 22 may be coated on its sides with a multi-layer coating that results in low reflection losses for low-angle light rays. See Honea at paragraph 0027 and Fig. 5. However, while Honea describes a multi-layer coating around a side of the laser slab 22, Honea's multi-layer coating is not at a distance from the side of the laser slab 22 in such a manner as to form an annular gap between the laser slab 22 and the multi-layer coating. Rather, the multi-layer coating is on one or more sides of the laser slab. See Honea at paragraph 0027 and Fig. 5. For at least these reasons, claim 1 is allowable over any possible combination of Tidwell and Honea. Moreover, claims 8-10 are allowable for at least the reasons that claim 1 is allowable.

Claims 11 and 12:

Claims 11 and 12 have been rejected as being obvious over Tidwell in view of U.S. Patent No. 5,359,616 (Yasui). Applicant requests withdrawal of the rejection of claims 11 and 12 for the following reasons. Claims 11 and 12 depend from claim 1, which was rejected as being anticipated by Tidwell. As discussed above, Tidwell fails to describe or suggest a reflector surrounding a laser-active solid body at a distance from a lateral surface of the solid body for reflecting light that exists the solid body back towards the solid body, thereby forming an annular gap between the solid body and the reflector, as recited in claim 1. Moreover, one of ordinary skill in the art would not have been motivated to modify Tidwell based on the teachings of Tidwell and Yasui in a manner in which an annular gap is formed between the reflective coating and the side surface 8 of the lasing medium 4.

Yasui relates to a solid state laser apparatus including a light source 4 adjacent a solid state medium 3. See Yasui at col. 1, lines 15-66 and Figs. 1a and 1b. Yasui explains that the solid state medium 3 is surrounded by a rough-surface cylindrical pipe 900 through which a cooling medium 70 flows. See Yasui at col. 1, lines 30-56 and Figs. 1a and 1b. However, Yasui's light source 4 enters the solid state medium 3 through a lateral or peripheral surface of

the solid state medium 3. See Yasui at Figs. 1a and 1b. In order to couple the pumping light of the light source 4 into the solid state medium 3, Yasui's apparatus requires the use of the rough-surface cylindrical pipe 900.

However, nothing in the cited art provides motivation to modify Tidwell to include a rough-surface cylindrical pipe, as described in Yasui. At most, Yasui's apparatus provides motivation to use a rough-surface cylindrical pipe in a transversal pumping system, such as the system shown in Yasui. Yasui's apparatus provides no such motivation to use a cylindrical pipe in an axial pumping system, such as the system shown in Tidwell. See MPEP at §2143.01 I. Moreover, in Tidwell, the reflective medium is a coating that is applied directly to the side surface 8 of the lasing medium 4. Thus, any such modification of Tidwell to include such a rough-surface cylindrical pipe would change the principle of operation of Tidwell, which requires a directly-applied coating. Such a modification cannot be permitted. See MPEP at §2143.02 VI.

For at least these reasons, claim 1 is allowable over any possible combination of Tidwell and Yasui. Moreover, claims 11 and 12 are allowable for at least the reasons that claim 1 is allowable.

Claims 13-15:

Claims 13-15 have been rejected as being obvious over Tidwell. Claims 13-15 depend from claim 1, which was rejected as being anticipated by Tidwell. As discussed above with respect to claim 1, Tidwell fails to describe or suggest a reflector surrounding a laser-active solid body at a distance from a lateral surface of the solid body for reflecting light that exists the solid body back towards the solid body, thereby forming an annular gap between the solid body and the reflector, and one of ordinary skill in the art would not have been motivated to modify Tidwell to form an annular gap between the reflective coating and the side surface 8. For at least these reasons, claim 1 is allowable over Tidwell. Moreover, claims 13-15 are allowable for at least the reasons that claim 1 is allowable.

Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

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